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VISUAL SATELLITE OBSERVATIONS CONDUCTED BY THE STADE TRACKING STATION

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216 Stade/Elbe, Thuner Strasse 98A, Western Germany

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Visual Observations of Satellites by Satellite Station Stade (Horst Köhnke, 216 Stade/Elbe, ~~Thurner~~ Thuner St. 98a, Western Germany)

Coordinates: 53° 35' 20" N
350° 32' 24" W

Altitude above normal zero: 7.5 m

SAO - No. 0708

COSPAR-Station No. 2567

VA = Variations in Brightness

Date Rev. No.	Object Catalog No.	Code Name	Time GMT	Magni- tude	Digit Change Tumbling Period
3/11/65	1964-4	Echo 2	17.44-17.50, S-N in W	0-	
5.446	740		60°	-1	Steady
3/11/65	1964-53B	Rocket of	18.34-18.37, SW-NE,		Tumbling
2.821	877	Kosmos 44	in NW 80° high	+5	4.3 sec
	decided slowup of tumbling half-period				
3/11/65	1964-53A	Kosmos	18.44-18.46, SW-NE,	+4-	VA
2.823	876	44	in NW 60-65° high	+5	
3/11/65	1965-15B	Rocket of	19.17-19.18, NW-SE,	+2-	Flashing
71	1192	Kosmos 59	in W 30°	+3	1-2 sec
3/11/65	1964-76A	Explorer	18.52-18.53, N-S, in	Apogee	
1.364	931	24	E 65-70°	+5-+6	Steady
3/11/65	1962 Beta	62 B-	19.40-19.42, SW-NE,		Flashing
9.044	Kappa 1 444	Kappa 1	in W/NW 15°	+4	3.7 sec

satellite and Echo 2 observed with field glasses for some time

Date Rev. No.	Object Catalog No.	Code Name	Time GMT	Magni- tude	Digit Change Tumbling Period
3/11/65	1964-4 A	Echo 2	19.35-19.42, S-N, in		
5.447	740		E 15° high	+1	Steady
	satellite and 1962 B - Kappa 1 observed with field glasses				
	for some time				
3/11/65	1964-83 A	64-83 A	21.20-21.21, S-N, in	+5-	VA, slow
1.207	953		E 65°	+6	tumbling
3/12/65	1964-4 A	Echo 2	19.06-19.09, S-N, in		
5.460	740		W 25° high	+1	Steady
3/12/65	1962 Beta -	62 Beta -	19.14-19.16, SW-NE,	600 km	Tumbling
9.055	Kappa 1	Kappa 1	in NW 25-30°	+3	3.4-3.5 sec
	444				
3/12/65	1963-43	A Poljot	20.29-20.31/32, NW-	Apogee	VA
6.999	683	1	SE, in SW 65°	+7	
3/12/65	1963-14 A	1963-14	21.09-21.12, S-N, in	+7-	Steady
5.822	574		E/NE 45° high	+8	weak VA
3/12/65	1963-30 D	63-30 D	00.46-00.50, N-S, in	+7.5-	Weak VA
3/13/65	624		E 75-80°, in Ursa		
5.169			Major: 00.46-00.47	+8.0	
			o'clock GMT		
3/13/65	1962 Beta -	62 Beta -	18.49-18.51, SW-NE,	Flash	Tumbling
9.066	Kappa 1	Kappa 1	in NW 35° high	+3	3.6 sec
	444				

Date Rev. No.	Object Catalog No.	Code Name	Time GMT	Magni- tude	Digit Change Tumbling Period
3/14/65	1963-30 D	63-30 D	01.56-02.01, N-S, in	+7-	Steady
5.178	624		W 65-70°	+8	Weak VA
3/14/65	1964-4 A	Echo 2	02.05-02.12, N-S,		
5.477	740		in E ? °	0	Steady
	illegible				
3/14/65	1961 Alpha-	Midas 4	02.16-02.17, S-N,		
10.752	Delta 1		in W 55° high	+7	VA
	192				
3/14/65	60 Iota 1	Echo 1	02.46-02.50, SW-		Strong
20.855	049		E, in S/SE 20°	+1	VA
3/14/65	1964-4 A	Echo 2	03.50-04.00, N-S,	0-	Tumbling
5.478	740		in W near zenith	1	9 sec
	decided slowup of tumbling - half period				
3/14/65	1964-11 A	64-11 A	04.30-04.32, S-N,	+2	Steady
5.780	759		in W 60° high		
	Measurement of	GMT: 04:30:21 20/100			
	Position:	RA: Ursa Major 1/2 to Alioth			
		Decl: 1/2 to Megrez			
3/14/65	1964-35 A	64-35 A	04.33-04.35, N-S,	+2-	
3.855	824		in E 85° high	+3	Steady
3/14/65	60 Iota 1	Echo 1	04.45-04.50, SW-E,		Strong
#20.856	049		in ~~Sloe~~ S/SE of zenith	+1	VA
3/17/65	1965-6 B	Rocket of	19.18-19.19, ~~W-S~~ W-E,		Tumbling
680	984	Kosmos 53	in SW 50° high	+5	0.4 sec

Date Rev. No.	Object Catalog No.	Code Name	Time GMT	Magni- tude	Digit Change Tumbling Period
3/19/65	1965-21 B	Rocket of	18.39-18.40, NW-SE,		Flashing, Tumbling
23 or 24?	?	Voskhod ~~WOSCHOD~~ 2	in SW 45-50° high	+3	1 sec
3/19/65	1964-76 A	Explorer	20.18-20.25, N-S,	Apogee	Steady
1.464	931	24	strong in SW	5-+6	Weak VA
3/19/65	1962 Kappa 1	62 Kappa	21.34-21.38, N-S,		Steady,
10.118	271	1	in W 80° high	+6	occasionally weak VA
3/19/65	1963-14 A	63-14 A	22.24-22.26, S-N,	+6-	Steady,
5.883	574		in E 80° high	+7	Weak VA

Measurement of Position: GMT: 22:25:06 22/100

RA: 12:05:00

Decl: + 56:00

New Satellites observed by me:

(1) 1965-15 B = Rocket of Kosmos 59, tumbling 1-2 sec.

(2) 1964-83 A = Mag. +5-+6 at about 1,000 km altitude

(3) 1965- 6 B = Rocket of Kosmos 53 with very rapid tumbling of 0.4 sec.

(4) 1965 - 21 B? = Carrier rocket of ~~WOSCHOD~~ Voskhod 2 with brightness of +3 magnitude. Tumbling - half period 1 sec.

With friendly greetings

Yours very truly,

Horst Köhnke